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EXAMINER

LAYE, JADE O

ART UNIT PAPER NUMBER

2614

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/819,131

Applicant(s)

OVADIA, SHLOMO

Examiner

Jade O. Laye

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2001.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-27 is/are rejected.
7) ☒ Claim(s) 3 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 27 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: there are various typographical and grammatical errors within the specification.

Appropriate correction is required.

Claim Objections

2. Claim 3 is objected to because of the following informalities: the term “channel channel component” appears to be a typo.

Appropriate correction is required.

Drawings

3. The drawings are objected to because Figure 7A, Item #706 misspells “baseband.” Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

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renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 9, 10, 20, and 27 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, 10, 11, 18, and 19 of copending Application No. 09/819163. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter of claims 1, 9, 10, 20, and 27 is encompassed by claims 1, 10, 11, 18, and 19 of the '163 application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-3, 6, 7, 9-11, 17-21 and 25-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Palm. (US Pat. No. 6,735,245).

As to claim 1, Palm discloses a modem activation system, in which data communication is enabled through various line probing techniques used to determine the quality and capability of the transmission line, as well as the appropriate communication standard to be utilized. Through the use of a pilot tone, the system can determine whether a data channel is available. Once a pilot tone is detected, the system then begins to determine what transmission standard is to be used (updating modem parameters). (it is inherent that the modem of Palm's system be capable of first tuning a receiver to a channel in order to begin the line probing process). (Col. 2, Ln. 45-53 ; Col. 3, Ln. 23-32 ; Col. 6, Ln. 5-15 ; Col. 7, Ln. 23-35 ; Col. 9, Ln. 7-10 ; Col. 11, Ln. 16-25 ; Col. 12, Ln. 33-62 ; Col. 13, Ln. 1-7 ; Col. 14, Ln. 3-39). Therefore, Palm anticipates each and every limitation of claim 1.

Claims 9, 10, 20, and 27 correspond to the method claim 1. Accordingly, each is analyzed and rejected as previously discussed.

As to claim 2, Palm further discloses the system will continue to scan channels until a pilot tone is detected. (Col. 12, Ln. 44-62). Accordingly, Palm anticipates each and every limitation of claim 2.

Claims 11, 18, and 21 correspond to the method claim 2. Thus, each is analyzed and rejected as previously discussed.

As to claim 3, Palm further teaches that in searching for the pilot tone, the system analyzes channel characteristics to detect frequency variations (i.e., frequency offset). (Col. 4, Ln. 63-67 thru Col. 5, Ln. 1-5). Accordingly, Palm anticipates each and every limitation of claim 3.

Claims 6 and 17 correspond to the method claim 3. Accordingly, each is analyzed and rejected as previously discussed.

As to claim 7, Palm further discloses the system transmits channel parameters (i.e., frequency, noise, etc.) used to communicate the control logic of the cable modem. (Col. 9, Ln. 58-65). Accordingly, Palm anticipates each and every limitation of claim 7.

Claim 25 corresponds to the method claim 7. Accordingly, it is analyzed and rejected as previously discussed.

As to claim 8, Palm further discloses the transmitted channel parameters can be frequency characteristics (i.e., RF frequency) (Col. 9, Ln. 58-60), modulation attributes (Col. 2, Ln. 15-29), and channel bandwidth (Fig. 5). Furthermore, the status of the line could be whether or not a pilot tone is detected, as disclosed within the rejection of claim 1. Accordingly, Palm anticipates each and every limitation of claim 8.

Claims 19 and 26 correspond to the method claim 8. Therefore, each is analyzed and rejected as previously discussed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 4, 5, 12-16 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palm in view of Field et al. (US Pat. No. 4,410,911).

Claim 4 recites the method of claim 3, wherein the pilot tone is a continuous wave tone added to one or more of the in-phase component and/or quadrature-phase component of the channel in baseband prior to combining of the components for modulation and transmission. As discussed above, Palm contains all limitations of claim 3, and further teaches an examination signal (which could also be the pilot signal) comprises a signal having a set of sinusoidal tones (i.e., continuous wave tone). (Col. 11, Ln. 16-30). But, Palm fails to disclose the other limitations of claim 4. However, within the same field of endeavor, Field et al disclose a similar system in which the pilot tone is added to the in-phase component (I) and/or the quadrature-phase component (Q) prior to combining of the components for modulation and transmission. (Col. 8, Ln. 31-45 & Fig. 2). Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant's invention to combine the systems of Palm and Field in order to provide a method of data detection, which efficiently utilizes available bandwidth.

Claim 5 recites the method of claim 4, wherein analyzing the channel comprises: demodulating channel content; and determining whether the channel includes a continuous wave

tone in one or more of the in-phase (I) and/or quadrature-phase (Q) component(s) of the channel, wherein the tone in either of the component is an indication that the channel is a data channel. As discussed above, the combined systems of Palm and Field contain all limitations of claim 4.

In light of the limitations of claim 4, the limitations of claim 5 would be inherent. Since the channel content is modulated at the transmission side, it must be demodulated at the receiving side. Also, since the pilot tone is added to either the I or Q components of the channel at the transmission side, the receiving side must determine (1) whether the pilot is present, and if present, (2) where the pilot is located. Therefore, the combined systems of Palm and Field contain the limitations of claim 5.

Claims 12, 13, 15, 16, 22, 23, and 24 correspond to the method claim 5. Accordingly, each is analyzed and rejected as previously discussed.

Claim 14 recites the computing system of claim 13, wherein the channel is a quadrature amplitude modulated (QAM) signal and the channel components include an I component and a Q component, and wherein the CW tone is introduced as a baseband frequency offset in one or more of the channel components prior to combining and modulation of the channel components. As discussed above, the combined system of Palm and Field contains all limitations of claim 13, and further discloses all other limitations of claim 14 (claim 14's limitations are only combinations of limitations recited in claims 4 and 6), but fails to disclose whether the channel is QAM modulated. However, Official Notice is taken of the QAM limitation because it is notoriously known in this art that signals can be transmitted utilizing QAM modulation techniques. Accordingly, the combined systems of Palm and Field contain all limitations of claim 14.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jade O. Laye whose telephone number is (703)308-6107. The examiner can normally be reached on Mon. 7:30am-3pm, Tues.-Fri. 7:30-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703)305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner's Initials JL
January 31, 2005.


NGOC-YEN VU
PRIMARY EXAMINER